PROVISIONAL INTELLIGENCE REPORT

# SOVIET CIVIL AIR TRANSPORT WITH SPECIAL REFERENCE TO THE AREA EAST OF THE URALS



CIA/RR PR-26
30 March 1953

CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

WARNING

This material contains information affecting the National Defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

Approved For Release 2005/04/12 : CIA-RDP79-01093A000300090002-5

CONFIDENTIAL

PROVISIONAL INTELLIGENCE REPORT

# SOVIET CIVIL AIR TRANSPORT WITH SPECIAL REFERENCE TO THE AREA EAST OF THE URALS

CIA/RR PR-26

(ORR Project 16-51)

NOTICE

The data and conclusions contained in this report do not necessarily represent the final position of ORR and should be regarded as provisional only and subject to revision. Additional data or comments which may be available to the user are solicited.

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

CONTENTS

CONFIDENTIAL



25X1

[redacted]

Maps

CIA/RR PR- 26
(ORR Project 16-51)

CONFIDENTIAL

# SOVIET CIVIL AIR TRANSPORT WITH SPECIAL REFERENCE TO THE AREA EAST OF THE URALS*

## Summary

Soviet civil air transport east of the Urals** has proved of great assistance to the USSR in overcoming some of the serious obstacles to the economic development and political unification of the region -- obstacles imposed by vast distances; difficult terrain; and nonexistent, rudimentary, or antiquated surface transport.

The scheduled civil airline, Aeroflot, is augmented by regional feeder air routes, by nonscheduled services, and by the Administration of Polar Aviation routes. The Polar Aviation routes have been extremely important in the integrating of river transport on the Ob', Yenisey, and Lena rivers with main points on the Northern Sea Route and with such important air traffic centers as Yakutsk and Sverdlovsk on the trans-Siberian air route. The Administration of Polar Aviation assists in the maintenance of seasonal sea communications along the Arctic coast between Murmansk and the Bering Sea. Aircraft have played a most important role in penetrating and exploring the Arctic and in maintaining those activities which have been established there on a year-round basis, as well as in giving support to short-term expeditions in the area.

Air transport east of the Urals has been important to the economy of the USSR in its services to various enterprises -- to agriculture, forestry, fisheries, and mines; to construction projects, such as the Turkmen Canal; and to reclamation projects, such as that in the Kara Kum Desert. In a country where continuous propaganda is an essential tool of Communism and where close contact must be maintained between the planning and the operational functions of the government, air transport acquires added importance. The matrices of newspapers are shipped by air from Moscow to distant cities in the Soviet Far East, and key personnel and election materials are transported by air. Labor, as well as administrative and technical personnel, is carried to oil fields and mines in the Soviet Far North and the Far East. Gold and furs are among the most valuable cargoes carried west from isolated regions in the Far North.

* This report contains information available to CIA as of 1 August 1952.
** The term "east of the Urals" is defined as the area east of a line passing through the Ural mountains from the Arctic Ocean to the Caspian Sea. This line would touch Astrakhan', Kuybyshev, and Amderma.

There are approximately 1,600 two-engine transport aircraft in use in the USSR for civil aviation. Approximately 350 of the total are Il-12's (Ilyushin-12), Soviet-built, with a carrying capacity of 18 passengers and cargo; and 1,250 are Li-2's (Lisitsyn-2), the Soviet-built counterpart of the US C-47, with a carrying capacity of 21 passengers. There are probably a few four-engine transports available for special flights, but there is no evidence of their use on the scheduled routes of Aeroflot. Small single-engine aircraft such as the Po-2 (Polikarpov-2) and the An-2 (Antonov-2) are used on feeder routes and for miscellaneous services.

The Soviet-Chinese Joint Stock Company for Aviation (Sovetsko-Kitayskoye Aktsionernoye Obshchestvo Grazhdanskoy Aviatsiy -- SKOGA) connects Pei-p'ing (called Pei-ching by the Communists) with the Soviet airline Aeroflot at three points within the USSR -- at Chita, Irkutsk, and Alma-Ata -- via routes in Sinkiang Province, Manchuria, and Mongolia. This significant extension of services has been accompanied by an improvement in the air facilities of the USSR in the Far East and by Soviet action to stimulate airfield construction in Manchuria, North Korea, Outer Mongolia, and China.

---

## I. Introduction.

This report will summarize the extent, nature, and significance of civil air transport operations in the USSR east of the Urals. A general description of the civil air transport system of this area as well as a description of its relationship with the system of the entire USSR will be presented, and the report will also describe the types of aircraft and facilities that are available in this area. Both scheduled and nonscheduled operations will be outlined, and the nature and volume of passenger and freight traffic will be considered. In addition to these aspects of the problem, there will be remarks on the weather factors influencing air operations in the area east of the Urals.

### 1. Significance of the Civil Air Transport System East of the Urals.

The significance of the Soviet civil air transport system east of the Urals lies in its value not only as a means of rapid communication between Moscow and the widely separated sections of the Siberian USSR and China but also as a potential reserve to augment Soviet military air power.* Although annual statistics on

* The civil air transport system and the military air transport system in this area could, under certain circumstances, be complementary to each other. There is no indication from available information, however, that such a condition is routine at this time.

ton-kilometers and passenger-kilometers flown by this system might appear almost insignificant beside the totals amassed by the various forms of surface transport, air transport operations, by virtue of their utility in speeding high-priority cargo and personnel to any point are far more important to the USSR than such a comparison would indicate.

Virtually all possible applications of the diverse potentialities of aviation have been utilized by the Soviet government to serve its civil requirements, especially in the area east of the Urals. The specialized nature of air transport and its many uses have proved of inestimable assistance to the USSR in overcoming some of the serious obstacles to its economic development and political unification imposed by vast distances; difficult terrain; and nonexistent, rudimentary, or antiquated surface transport. Scheduled airline operations, carrying passengers, mail, and freight, are only one part of the duties of the civil air system. A large proportion of its activity is devoted to services of a nonscheduled or special nature such as providing communication and supplies to isolated communities, meteorological stations, and mining and fishing establishments; hauling valuable high-priority freight between industrial centers and remote areas; and performing other varied services. The role of aviation in the development and maintenance of the Northern Sea Route has had major scientific as well as economic significance. Additional services are conducted, such as crop spraying and dusting, forest protection, aerial ambulance work, aerial photography, geodetic surveys, and mapping.

The political significance of the civil air transport services can hardly be overrated. Relatively rapid communication with all points of the eastern USSR has proved an invaluable factor in unifying politically the many nationalities throughout this vast territory and in bringing them more closely under the authority and administration of Moscow.

The Fourth Five Year Plan (1946-50) for the rehabilitation and development of the national economy of the USSR envisaged that "the use of specially adapted aircraft for combating farm and forest pests and plant diseases, for public health service and aerial geodetic surveying shall be developed on a large scale." 1/*

2. General Description of the Civil Air Network of the USSR.**

Inasmuch as the civil air transport system of the area east of the Urals is only one part of and is dependent on the entire Soviet civil air transport system, it will be necessary to give

25X1

some descriptive remarks on the entire system.

An extensive network of lines radiating from Moscow to all points in the western part of the USSR, combined with branch lines from the trans-Siberian route, provides regional coverage and connections with the capitals of all of the Soviet republics and with the major oblast centers. This network is built around one east-west and several north-south routes. The route from Moscow to Toyohara (Yuzhno-Sakhalinsk), via Novosibirsk, Irkutsk, and Kharbarovsk, extends almost 8,050 kilometers (5,000 statute miles) to connect the capital with the Far East. East of the Urals this transcontinental route is joined by regional feeder routes at Sverdlovsk, Novosibirsk, Krasnoyarsk, Irkutsk, Chita, Alma-Ata, Yakutsk, Khabarovsk, and Magadan. Regional feeder routes also connect Sverdlovsk and Yakutsk on the trans-Siberian route with the southern terminals of routes * flown by the Administration of Polar Aviation.** These principal terminals, probably Salekhard, Krasnoyarsk, and Sangar, are situated on the Ob', Yenisey, and Lena rivers, respectively. Many short local services, a large part of them nonscheduled, complete the ramified network.

An international air network extends into Eastern Europe, linking Moscow to 10 European capitals -- Bucharest, Budapest, Belgrade, Prague, Sofia, Tirana, and Warsaw, as well as Berlin, Vienna, and Helsinki. In the Far East, connections are provided with Pei-p'ing from Alma-Ata, via Sinkiang Province; from Chita, via Manchuria; and from Irkutsk, via Mongolia.

3. Organization of Civil Air Transport in the USSR.

The Main Administration of the Civil Air Fleet (Glavnoye Upravleniye Grazhdanskovo Vozdushnovo Flota -- GUGVF) is believed to be responsible not only for operating the scheduled civil airline, Aeroflot, but also for controlling many of the other nonmilitary air operations in the USSR, including the control and maintenance of certain nonmilitary airfields. Even the small aircraft units of various government organizations which perform nonscheduled operations and special services probably are assigned permanently to GUGVF.

The Civil Air Fleet, always under government control, has gone through various phases of military subordination. In 1948, GUGVF was made a component of the Ministry of the Armed Forces, after having been directly under the Council of Ministers. On reorganization

* See p. 11.

** The Administration of Polar Aviation controls the air activities of the Main Administration of the Northern Sea Route (Glavsevmorput').

in February 1950, it became a subordinate component of the newly established Ministry of War. The Civil Air Fleet at present is believed to be subject to the authority of the Commander in Chief of the Air Force of the Soviet Army. Ranks equivalent to those of the military were provided for officials in operations and in the technical and administrative services of GUGVF. 2/

The great expanse of territory over which the Civil Air Fleet operates is divided into 25 territorial administrations and independent aviation detachments, the areas of which frequently coincide with political subdivisions of the USSR. These regional divisions are organized along the lines of GUGVF, with corresponding subordinate staff sections. Their headquarters are usually located in the capitals of the Soviet republics or in the important cities of the regional divisions. They are responsible to GUGVF for direction and control of civil air traffic within their particular areas and for interterritorial operations. An alphabetical listing of the territorial administrations and independent aviation detachments is given in Appendix A. 3/ Of the 25 divisions, 11 are in the region east of the Urals.

Aeroflot operates as a commercial civil airline providing scheduled services to all principal cities throughout the country. It also engages in extensive nonscheduled operations and contract services similar to those furnished by the "irregular" carriers of the US.

The Administration of Polar Aviation performs a variety of services in connection with the maintenance of the Northern Sea Route, including hydrometeorological flights for the purpose of surveying the sea lanes and reporting on weather and ice conditions. Air transport and communications, however, are the major functions of the Administration of Polar Aviation. Many important ground establishments such as meteorological stations, geological surveys, and mining bases are largely dependent upon air transport for supply. Considerable quantities of high-value freight such as gold and furs are transported by air from Arctic areas to major transfer points.

Each of the 25 territorial administrations has, within the regional division, its local air services, which are flown as regularly scheduled regional feeder routes. The territorial administrations of the regional divisions also operate nonscheduled flights with light aircraft capable of landing at primitive airfields. They perform a variety of services, such as spraying, seeding, defoliating, and fertilizing for agriculture. They also lend support to hospital and health services and supply permanent and temporary scientific expeditions in the area.

4. Inventory and Types of Soviet Civil Aircraft.

There are approximately 1,600* two-engine transport aircraft in use in the USSR for civil aviation. 4/ Approximately 350 of the total are Il-12's (Ilyushin-12), Soviet-built two-engine transports with a carrying capacity of 18 passengers and cargo; and 1,250 are Li-2's (Lisitsin-2), Soviet-built counterparts of the US C-47, with a carrying capacity of 21 passengers.** There are probably a few four-engine transports available for special flights, but there is no evidence of the use of these transports on the scheduled routes of Aeroflot. There are still in use an unknown number of US C-47 aircraft received on Lend-Lease, some of which have had the Wright engine replaced by a Soviet engine. The An-2 (Antonov-2) and the Po-2 (Polikarpov-2), both single-engine aircraft, are not included in the inventory, although they must be used on feeder routes and for miscellaneous services.

The USSR has developed at least two postwar types of four-engine transports. One of these, the Tu-70 (Tupolev-70), is a transport version of the Tu-4, the Soviet counterpart of the US B-29 medium bomber. The other, designated Il-18 (Ilyushin-18), corresponds to the US C-54.

The civil aircraft probably are controlled and operated by the following authorities: Ministry of Aviation Industry, Ministry of State Security (MGB), Ministry of Internal Affairs (MVD), Ministry of Forestry, Ministry of Health, Main Administration of Hydrometeorological Services, Ministry of Geology, Ministry of Agriculture, Ministry of Transport, Ministry of Fishing Industry, and Ministry of Timber and Paper Industry.

5. Civil Air Facilities in the USSR and in the Far Eastern Satellites.

The total number of air facilities in use in the USSR is estimated to be 1,191 as of May 1952. 6/ Of this total, about 61 have permanently or temporarily surfaced runways of 5,000 feet or over, and 112 of the facilities are for seaplanes. The permanently surfaced fields are distributed mainly in European USSR, the Far East Maritime region, and the Kurile Islands. Of the 401 air facilities east of the Urals, 28 have permanently or temporarily surfaced runways of 5,000 feet or over, and 72 of the facilities are for seaplanes. 7/

* This total does not include aircraft assigned to civilian air clubs but does include aircraft belonging to the Administration of Polar Aviation.

** For military purposes, the maximum capacity in 1952 is reported as 25 troops. 5/

In the Far East, in addition to the improvement of air facilities in the USSR proper, the Soviet government has been stimulating construction in Manchuria, North Korea, Outer Mongolia, and China. In Manchuria 8/ the original Japanese and the postwar Chinese Communist facilities followed the Dairen -- Mukden -- Ch'ang-ch'un -- Harbin railroad line. Under the Communist regime, construction has been in progress or completed at about 215 of the 474 facilities in Manchuria, Outer Mongolia, China, and North Korea. The entire quasi-civil air organization is subservient to the military needs of the Communist air forces operating in Manchuria and China. Therefore, any or all of the facilities in Manchuria, Outer Mongolia, China, and North Korea are available for Soviet civil air transport requirements.

Table 1* gives the classification of airfields and seaplane stations used in US Air Force publications. Table 2,** using these classifications, lists the Soviet Bloc civil air facilities in the Far Eastern Satellites. 9/

## II. Civil Air Transport Operations East of the Urals.

### 1. Scheduled Transport Services.

The network of the Soviet civil air transport system consisted of 93,765 unduplicated kilometers (58,263 statute miles) in 1950. It is almost impossible to make a quantitative estimate for any given region. It is known, however, that emphasis is placed on air transport as a means of connecting Moscow with outlying regions. Most of the references to the growth of civil aviation stress the fact that Moscow, by means of the air network, is being brought more closely in touch with remote areas in the Arctic and the Far East. 10/ In Siberia, air transport takes on added importance because of the lack of adequate surface transport.

In accordance with the Sino-Soviet Aviation Agreement of 27 March 1950, the Soviet-Chinese Joint Stock Company for Aviation (Sovetsko-Kitayskoye Aktsionernoye Obshchestvo Grazhdanskoy Aviatsiy -- SKOGA) was established by an agreement between Communist China and the USSR. This company, replacing the Sino-Soviet Aviation Corporation, which had existed under the Chinese Nationalist regime, extended the area of Soviet control of civil air to include North China, Manchuria, and the Chinese Communist capital of Pei-p'ing (Pei-ching). The SKOGA fleet is estimated at 18 two-engine transport aircraft. 11/ Services extend from Pei-p'ing to the USSR at Alma-Ata, Irkutsk, and Chita, where there are connections to the

* Table 1 follows on p. 8.
* Table 2 follows on p. 9.

Table 1

Classification of Airfields and Seaplane Stations

| Class | Operational Capability | Minimum Length (Feet) | Runway Surface [a] |
|---|---|---|---|
| 1 | Sustained operation of HB [b] - MB [c] and jet light bombers; weight-bearing capacity of 120,000 pounds or more. | 7,000 | Permanent |
| 2 | Limited operations of HB-MB and sustained operations of jet tactical support fighters. | 6,000 | Permanent-Temporary |
| 3 | Potential HB-MB operations, presently capable of sustained operations of jet interceptor fighters; easily improvable to Class 1. | 5,000 | Permanent-Temporary |
| 4 | Light transports, reciprocating engine fighters, and limited jet fighters; weight-bearing capacity of 60,000 pounds or more. | 4,000 | Permanent-Temporary-Natural |
| 5 | Other operational airfields or potentially important airfields. | 2,000 | Permanent-Temporary-Natural |
| 6 | Seaplane stations | | Complete facilities |
| 7 | Seaplane stations | | Incomplete facilities |

a. Runway surfaces are defined as follows:
Permanent, such as asphalt, brick, concrete, tar macadam, and maintained coral;
Temporary, such as steel matting or metal planking, graded earth, gravel, or laterite; and
Natural, such as grass, earth, or sand and clay.
b. Heavy bombers.
c. Medium bombers.

Table 2

Soviet Bloc Civil Air Facilities
in the Far Eastern Satellites

| Satellite Country | Total | Classes of Air Facilities a/ | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Manchuria | 190 | 0 | 12 | 19 | 49 | 109 | 1 | 0 |
| Outer Mongolia | 17 | 0 | 0 | 0 | 1 | 16 | 0 | 0 |
| China | 233 | 1 | 18 | 39 | 77 | 93 | 0 | 5 |
| North Korea | 34 | 0 | 0 | 8 | 11 | 15 | 0 | 0 |
| Total | 474 | 1 | 30 | 66 | 138 | 233 | 1 | 5 |

a. See Table 1.

main Soviet airline network. The following three routes of SKOGA are of great importance to the air transport system in the Far East: (a) Pei-p'ing -- Sian -- Lan-chou -- Chiu-ch'uan -- Ha-mi -- Urumchi (Ti-hua) -- Kuldja -- Alma-Ata; (b) Pei-p'ing -- Kalgan -- Ulan Bator -- Irkutsk; and (c) Pei-p'ing -- Mukden -- Harbin -- Ch'i-ch'i-ha-erh (Tsitsihar) -- Hai-la-erh -- Chita. 12/

Just before the Chinese Communists took over the whole of the Chinese mainland, the Nationalist government had renewed an aviation agreement for a 5-year period ending 9 September 1954. The Chinese terminus of the line at that time was at Ha-mi, Sinkiang Province. When the Chinese Communists came into control, however, SKOGA extended its services beyond Ha-mi to Pei-p'ing. In addition to this extension, SKOGA was authorized to connect Pei-p'ing with Chita and Irkutsk in the USSR. These three links are of great importance in the air transport picture in the Far East.

2. Nonscheduled Transport Services. 13/

Nonscheduled transport services in the area east of the Urals include the services provided by the Administration of Polar Aviation, the regional nonscheduled routes of the Civil Air Fleet which connect with the transcontinental scheduled services, and the nonscheduled and contract services of Aeroflot.

* See the map Authorized Civil Aviation Routes in Communist China, May 1952, following p. 10, which gives these routes and those of the China Peoples' Aviation Corporation.

Very little information is available, other than the probable route pattern, for the nonscheduled services on the regional feeder routes. There is almost no information on the nonscheduled or contract services of Aeroflot.

The Administration of Polar Aviation is the air unit subordinate to the Main Administration of the Northern Sea Route (Glavsevmorput'), which assists in the maintenance of seasonal sea communications along the Arctic coast between Murmansk and the Bering Sea. Aircraft have played a most important role in penetrating and exploring the Arctic and in maintaining those activities which have been established there on a year-round basis, as well as in giving support to short-term expeditions in the area.

The USSR has for many years considered the entire northern region to be of the highest strategic importance and has in fact stated its claim to all islands and territorial waters between its northern coasts and the North Pole. More than 400 scientific expeditions have been sent out, and numerous radio stations, 14/ lighthouses, meteorological stations, navigational aids, and airfields have been established.

Parallel with the Soviet efforts of a purely maritime character to make the Northern Sea Route accessible to the Soviet merchant marine, measures have been taken to develop the immense natural resources of northern Siberia. These resources include lumber, coal, graphite, and gold as well as other minerals. Lumber from this area is an important item of Soviet export, and Siberian furs are a continuing source of foreign exchange. Air transport is an essential factor in maintaining these activities.

The Administration of Polar Aviation supplies the meteorological bases which provide important weather information affecting the whole of the USSR. Weather stations report their observations three times a day to the headquarters on Dikson Island, which is in direct communication with Moscow. The data are used for long-range weather forecasting, which permits the assembling of merchant ships at points of departure to take greatest advantage of the short navigation period. Soviet agriculture also benefits from this system of long-range forecasting. The Administration of Polar Aviation helps, in collaboration with icebreakers, to maintain sea lanes during periods of the year when the sea route is navigable. The aircraft used in this activity are usually land-based, and both pre- and post-navigational flights are required. Bombs may be dropped to break an ice jam. There are several large MVD construction agencies in the Polar region which may request aircraft from the Administration of Polar Aviation to assist in specific projects. One of these is the Council for the Study of the Exploitation of Mineral Deposits for the USSR. Other organizations are Severstroy, the Construction Agency of

SECRET
SECURITY INFORMATION


# AUTHORIZED CIVIL AVIATION ROUTES IN COMMUNIST CHINA

MAY 1952

——— Route of Soviet-Chinese Joint Stock Company for Aviation

– – – – Route of China Peoples' Aviation Corporation

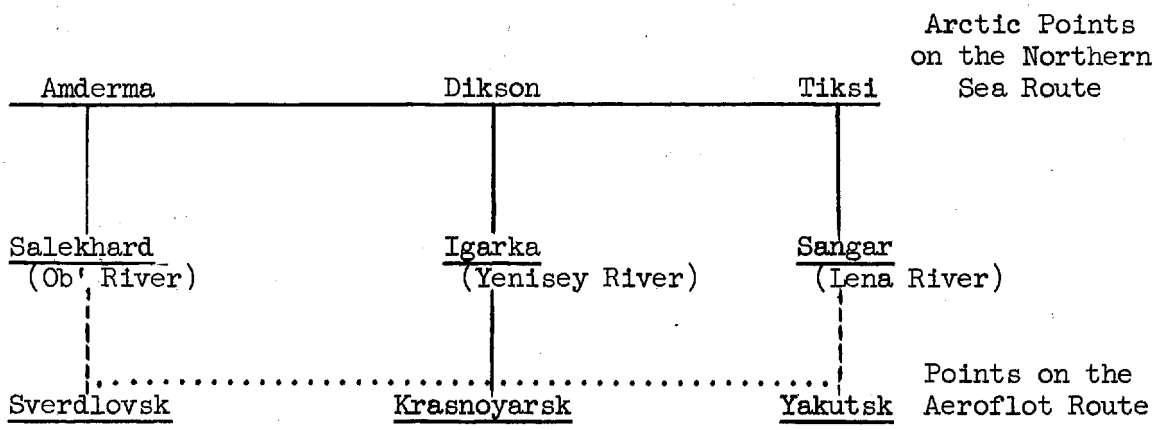
SECRET

25X1

the North, and Dalstroy, a construction agency in the Far East, which is charged with economic development of resources in the area. The MVD and MGB rent aircraft of the Administration of Polar Aviation, and it is thought that the requests of these agencies may have something of the force of orders. 15/ They also have operation control of approximately 75 two-engine transport aircraft.

Until 1937 the Administration of Polar Aviation controlled all civil aviation activities east of the Urals and as far south as the Trans-Siberian Railroad. At present, however, the southern termini of the Administration of Polar Aviation are probably located principally at Salekhard on the Ob' River, Krasnoyarsk on the Yenisey River, and Sangar on the Lena River. These points are connected with the transcontinental route to the south, as shown on the following chart 16/:

Integration of Sea, River, and Air Routes
of the Administration of Polar Aviation in the Arctic Area




Legend:

_____ Routes of the Administration of Polar Aviation. These routes are probably flown with some degree of regularity, and connect the three rivers as follows: Amderma to Salekhard, Dikson to Krasnoyarsk via Igarka, and Tiksi to Sangar.

----- Regional feeder routes. These routes connect Salekhard with Sverdlovsk and Sangar with Yakutsk on the main Aeroflot route to the east.

..... Aeroflot route.

In addition to the three main routes along the Ob', the Yenisey, and the Lena rivers, there is a fourth route serving the Khatanga

River region. 17/ Regional feeder routes connect with the river routes. There is also a transcontinental route flown by the Administration of Polar Aviation which follows the northern Arctic coastal areas.

A Soviet engineer assigned to the Soviet Arctic Oil Research Expedition in that region in 1942 said in a document dated 1950 that except for ship communications, which are possible only a few weeks per year, the Nordvik-Khatanga region is bound to the rest of the world -- that is, to the USSR -- almost wholly by air communications. 18/ The Kolyma River region is also largely dependent on air communications for transport of labor and shipments of gold mined in the area.

3. Special Services.

Special services make up some part of the activities both of Aeroflot and of the Administration of Polar Aviation. Light aircraft such as the Po-2 are primarily used as a means of communication to reach remote settlements, where railroads do not exist and where poor roads preclude satisfactory surface transportation.*

In a country where continuous propaganda is an essential tool of Communism and where, in view of its economy, close contact must be maintained between the planning and the operational functions, air transport acquires added importance. Key administrative and trained technical personnel require quick transport to industrial plants, and strategic parts are often shipped by air.

As an aid in agriculture, aircraft help to combat various pests and plant diseases. For example, it was with the aid of aviation that locusts were stamped out in a long-ravaged area of the USSR, according to Soviet propaganda claims. Mineral fertilizers are spread from the air over great areas of winter grains, rice, flax, and perennial fodder grasses. According to a Soviet account, in 1950 the spreading of fertilizer by air was employed in 70 regions of the country by more than 2,000 state farms and collectives. A new method of artificial defoliation is said to have been introduced in the cultivation of cotton. Aircraft sprinkle the plants so that the leaves dry off, thus accelerating the ripening of the cotton and improving its quality.

Forests in the USSR cover 4 million square miles and extend along the Yenisey from latitude 57°N to 68°N, a distance of 750 miles. Preliminary surveys in the Yeniseysk-Igarka area suggest a total of 130

* See the map Surface Transportation and Limiting Climatic Factors in the USSR East of the Urals, following p.28.

million hectares,* of which only 6 million hectares have been exploited. A special branch of the work of Soviet civil aviation is the servicing of forest stations and the timber industry. Forests are studied from aircraft in order to determine their industrial value and to organize the exploitation of the forest wealth. The Ministry of Timber and Paper Industry probably is called upon to provide evidence, based on aerial reconnaissance, that a factory or sawmill will pay in the area surveyed. 19/ Planes patrol the floating timber and take measures to avert bottlenecks and log jams. Forest fires are detected from the air, and air-borne firemen are dropped by parachute. 20/

In afforestation, routes for shelter belts are prospected and surveyed from the air, and the sowing of hardy grasses and woody shrubs for stabilizing desert sands is done by aircraft. 21/ It was reported in 1951 by Soviet propaganda sources that in the valley of the Chernyy Irtysh River, on the Sinkiang Province frontier, trees, transported by air, were planted on 15,000 hectares of unproductive land 22/ and that aircraft flew from Alma-Ata to Chimkent to load tree saplings for the Kakhovka hydroelectric station. 23/

In the fishing industry, aircraft are used to spot schools of fish, and the pilot radios the information to the fishing vessels. 24/ Radio Vladivostok reports, for example, that spotting planes are used by the Maritime Fisheries Administration to locate mackerel. 25/ It has been reported that aircraft also are used to transport millions of mirror carp fry for reservoirs and lakes on state and collective farms. 26/ All these services are stressed in Soviet propaganda.

Radio Yuzhno-Sakhalinsk reports that the Civil Air Fleet has transported construction materials, qualified workers and specialists, geological instruments, high-precision equipment, food, and mail to various construction projects. 27/ Supply of the hydroelectric project at Kuybyshev is reported to be carried out to a great extent by air. 28/ Pravda of 17 August 1951 speaks of Li-2 aircraft loaded with parcels of prefabricated housing for delivery to the site of the Turkmen Canal. Special aircraft sow a type of hardy grass in the sands along this canal and spray areas which are infested with malarial mosquitoes. 29/ Small aircraft do aerial surveying and photography along the course of the canal. 30/ Although other forms of transport may be available, the great construction projects are probably supplied by air whenever it is a question of expediting the transport of key personnel or materials.

* A hectare is 2.471 acres, or 10,000 square meters.

Light aircraft are used for communications between the main settlements of geological expeditions and the regional airfields and sometimes for communications between individual geological field companies, which may be from 20 to 200 kilometers apart. 31/ For example, a 1951 broadcast from Takhia-Tash in the Uzbek SSR reported that numerous exploration groups were operating in the Kara Kum Desert. Aircraft brought in water, instruments, and newspapers and carried out aerial photographs of the region. Pilots of the Uzbek Air Geological Expedition were said to have flown 50,000 kilometers above plan over the Kara Kum Desert. 32/

A special operations group and regular civil air detachments carry out flights connected with election campaigns, and planes deliver campaign literature and election documents to remote points of a republic. 33/ Transport units maintain communications between the capital and all oblast centers of a republic. In addition, aviation units maintain contact with the village election centers within each oblast.

III. Nature and Volume of Traffic.

Although traffic figures for airlines are negligible in comparison with railroad figures in the USSR -- less than 1 billion ton-kilometers in 1950 compared with over 532 billion ton-kilometers for railroads 34/ -- they take on particular significance east of the Urals because of the inadequacy of other forms of transport in this area. Despite its great land mass, the USSR has very few paved roads and only 115,920 kilometers (72,000 statute miles) of railroad track. There are in the USSR approximately 100,000 kilometers (62,000 statute miles) of equipped waterways, but they carry only about 10 percent of the total of ton-kilometers. 35/ Most of these transport facilities lie west of the Urals. With the exception of a single transcontinental railroad, through surface transportation east of the Urals is largely undeveloped.

Air freight traffic on the whole is likely to have priority over passenger traffic in the entire USSR, and it is particularly important in the area east of the Urals as a means of supply to isolated communities. Air freight traffic consists of high-priority goods of wide variety. Such shipments in the entire USSR have included the following products: lathes, precision instruments, spare parts for tractors and harvester combines, expensive furs, essential oils for the manufacture of perfumes, ball bearings, electric cables and electric motors, medicines (particularly antibiotics), spices, fresh fruits, silks and velvets, fresh flowers, and live fish in special aquariums. 36/ Among the most valuable aircraft cargoes are gold and expensive furs. 37/

Numerous cargoes are conveyed by air from Ashkhabad to points on the main Turkmen Canal. There is also considerable freight traffic on the recently opened airlines Moscow -- Nukus and Moscow -- Tashauz. 38/ The delivery by air of matrices of the newspaper Pravda and of certain other Moscow newspapers to Novosibirsk, Khabarovsk, and other cities makes it possible for the population of towns thousands of kilometers away from Moscow to read these newspapers on the day of publication in the capital or, in some cases, on the following day. 39/ The carrying of mail is an important function of air transport, particularly to isolated communities, where there is no other form of transport available.

Aircraft carry a variety of freight to the Far East. In January 1952, equipment was being flown to the Sakhalin oil workers. 40/ Air transport has made possible the prompt shipment of furs from remote areas to the centers of marketing. 41/ Siberia produces one-third of the world's furs, and the USSR has almost a monopoly on some of the rarest and most valuable furs. The bulk of these furs is trapped in Siberia north of latitude 50°. Large quantities of mink are trapped in the Kola Peninsula and in the area near Yakutsk in Siberia. Before the use of aircraft in this area, weather conditions prevented the trappers from shipping in time to reach the auction houses in the western part of the USSR, and the value and quality deteriorated when the skins were stored until the following season. Agents often had their cargo held up in the wilderness of the Siberian forest through a premature spring because, once the thaw had set in, reindeer and dog sledges could not travel. Thus the parcels had to be left until the following winter, taking 2 years for the furs to reach the auction houses. With present air transport facilities, foxes and sables caught in Northern Siberia in December are shipped from Khatanga on the Khatanga River and Turukhansk on the Yenisey River to Leningrad by early April. 42/ The total catch shipped by air from the Taymyr Okrug alone was valued at 4.8 million rubles in 1938. 43/

Transport of newly mined gold is another important function of air transport in the area east of the Urals. Gold is found throughout the Kolyma River area, and a large slave labor force, estimated at about 30,000 to 40,000 in the Sredne-Kolymsk area alone, is controlled by the MVD with headquarters at Magadan. Prisoners are frequently carried in by aircraft, and gold is flown out of the region. 44/ About eight courier aircraft are said to be used to bring gold from Siberian gold fields to Kemerovo. The gold is then stored in the cellars of the MVD building. When a certain amount has been collected, the gold is taken by aircraft to Novosibirsk and thence to Moscow. 45/

Drugs and surgical instruments, distributed by air, are said to be imported by the USSR in the amount of approximately 1 million US dollars' worth per month. Special interest is being shown in

insulin, streptomycin, luminal, and veronal, and there is evidence that antibiotics in particular are flown to the Far East. 46/

IV. Weather Factors.

The extreme range of temperatures (100°F to minus 75°F) throughout the year in parts of the arctic and subarctic regions produces effects on the terrain which seriously handicap railroad transportation as well as road transportation.

According to Soviet figures, there were over 2 million people in the Arctic region in 1946, of whom 30,000 were industrial workers. There were 3,000 collective farms which had put 350,000 hectares of land under cultivation in areas where crops had never before been grown. There were many logistical difficulties in supplying the area, and the use of air transport facilities for supply and evacuation in many cases was the only practicable method.

Airfields have an advantage over railroads and surface transportation in general, in that snow removal is not always necessary. The Soviet technique of pounding the snow flat on an airstrip may make the airstrip usable for aircraft with conventional landing gear until the thaw is well advanced. Often a temporary surfaced strip beside the main runway is used in the interim to shorten the period during which the field might otherwise be out of commission because of melting snow on the main runway.

The Soviet policy for airfields is to have numerous alternate landing strips to permit dispersal and mobility. Pierced steel planking has possibilities in Arctic areas, and some of this type of construction is believed to have been used in northeast Siberia. The construction of permanent airfields in permafrost areas has been found to be very costly and requires more effort than elsewhere. The Russians encountered many difficulties during their early efforts to build runways in permafrost areas north of 60° latitude. The first runways heaved and buckled, but later techniques have been developed for insulating the permanently frozen soil.

The USSR has attached the greatest importance to the construction and improvement of airfields in the Far East. Most emphasis has been placed on the area north of Vladivostok, but a certain amount of construction has been completed on Sakhalin Island and on the Kamchatka Peninsula. Except during the short period of spring thaw, frozen lakes and other waterways provide a large number of quickly adaptable landing and take-off areas. Navigation is difficult, since there are magnetic disturbances and a scarcity of landmarks, and the long duration of the twilight periods increases the difficulty of celestial navigation. It may be said, however, that in the arctic and subarctic regions, air transport is less likely to suffer interference because of rigorous weather conditions than are the various forms of surface transport. 47/

V. Conclusions.

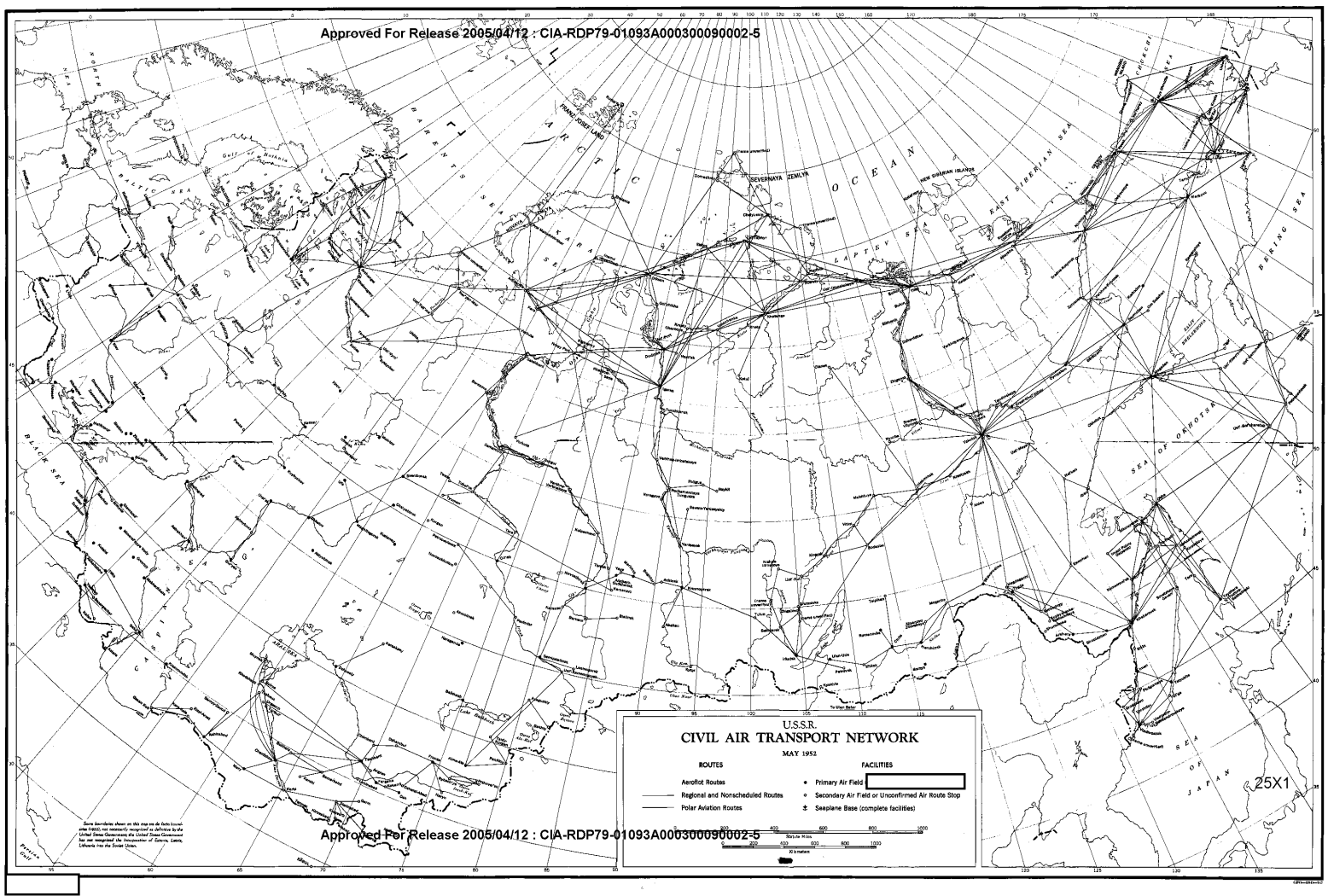
Air transport in the area east of the Urals is of great economic importance to the USSR in the support of the Northern Sea Route in providing year-round access to the rich mineral deposits and other natural resources of Siberia, in the servicing of the new hydro-electric and canal projects under construction, in maintaining meteorological services which benefit the entire country, and in supporting scientific explorations in arctic and desert areas.

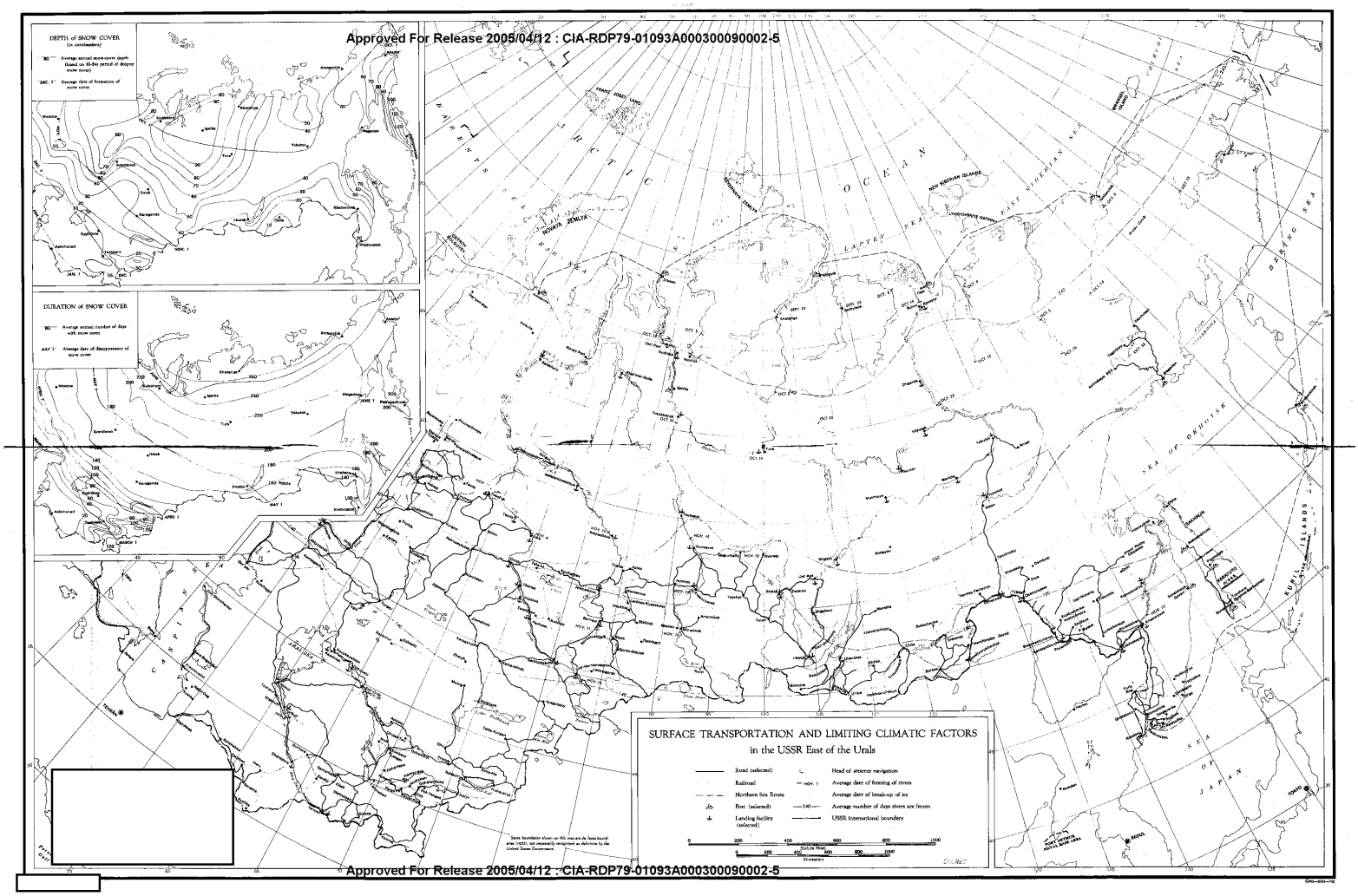
Air transport is also of great political importance in providing rapid communications between Moscow and the outlying regions. Aircraft are widely used in distributing newspapers and other party propaganda, in carrying mail, and in transporting key personnel where there is no other form of transportation available. Maintenance of such communications on a year-round basis greatly strengthens the hold of the Kremlin over the entire area.

The most significant recent development of air transport east of the Urals has been the extension of services by three different routes to the capital of Communist China.

Next 5 Page(s) In Document Exempt

Approved For Release 2005/04/12 : CIA-RDP79-01093A000300090002-5






25X1

25X1